

EXHIBIT E2

Patricia Moorman, Ph.D., M.S.P.H.

Page 1

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

GAIL INGHAM, ET AL.,)	
)	
Plaintiffs,)	
)	
vs.)	Case No.
)	1522-CC10417-01
JOHNSON & JOHNSON, ET AL.,)	Division 10
)	
Defendants.)	
_____	/	

DEPOSITION OF PATRICIA MOORMAN, Ph.D., M.S.P.H.

(Taken by Defendants)

Durham, North Carolina

Monday, March 12, 2018

Reported in Stenotype by
Amy A. Brauser, RPR, RMR, CRR
Transcript produced by computer-aided transcription

Patricia Moorman, Ph.D., M.S.P.H.

<p style="text-align: right;">Page 2</p> <p>1 APPEARANCES</p> <p>2 ON BEHALF OF THE PLAINTIFFS:</p> <p>3 STEVE FARIES, ESQUIRE</p> <p>4 The Lanier Law Firm</p> <p>5 6810 Cypress Creek Parkway</p> <p>6 Houston, Texas 77069</p> <p>7 (713) 659-5200</p> <p>8 steve.faries@lanierlawfirm.com</p> <p>9</p> <p>10 ON BEHALF OF THE DEFENDANTS JOHNSON & JOHNSON AND</p> <p>11 JOHNSON & JOHNSON CONSUMER COMPANIES INC., NOW KNOWN</p> <p>12 AS JOHNSON & JOHNSON CONSUMER INC.:</p> <p>13</p> <p>14 MARK HEGARTY, ESQUIRE</p> <p>15 Shook, Hardy & Bacon, LLP</p> <p>16 2555 Grand Boulevard</p> <p>17 Kansas City, Missouri 64108</p> <p>18 (816) 474-6550</p> <p>19 mhegarty@shb.com</p> <p>20 ON BEHALF OF THE DEFENDANT IMERY'S TALC AMERICA, INC.:</p> <p>21 MICHAEL R. KLATT, ESQUIRE</p> <p>22 Gordon & Rees, LLP</p> <p>23 816 Congress Avenue, Suite 1510</p> <p>24 Austin, Texas 78701</p> <p>25 (512) 391-0197</p> <p>mklatt@grsm.com</p> <p>ON BEHALF OF THE WITNESS:</p> <p>JEFF GIBSON, ESQUIRE</p> <p>Cohen & Malad, LLP</p> <p>One Indiana Square, Suite 1400</p> <p>Indianapolis, Indiana 46032</p> <p>(317) 636-6481</p> <p>jgibson@cohenandmalad.com</p> <p>ALSO PRESENT:</p> <p>Michelle A. Parfitt</p>	<p style="text-align: right;">Page 4</p> <p>1 INDEX OF EXAMINATIONS</p> <p>2 By Mr. Hegarty. Page 8, 344, 355</p> <p>3 By Mr. Klatt. Page 290, 359</p> <p>4 By Mr. Faries. Page 353</p> <p>5</p> <p>6</p> <p>7 INDEX OF EXHIBITS</p> <p>8 NUMBER DESCRIPTION MARKED/IDENTIFIED</p> <p>9 Exhibit 1 Plaintiff's Disclosure of 16</p> <p>10 Expert Testimony</p> <p>11 Exhibit 2 CV of Patricia Moorman, 19</p> <p>12 Ph.D., M.S.P.H.,</p> <p>13 Exhibit 3 Reliance Materials of Patricia 19</p> <p>14 Moorman, Ph.D.</p> <p>15 Exhibit 4 April 1, 2014, letter from FDA 86</p> <p>16 to Samuel Epstein</p> <p>17 Exhibit 5 NCI PDQ Screening and 94</p> <p>18 Prevention Editorial Board</p> <p>19 Exhibit 6 Ovarian, Fallopian Tube, and 96</p> <p>20 Primary Peritoneal Cancer</p> <p>21 Prevention (PDQ)- Health</p> <p>22 Professional Version</p> <p>23 Exhibit 7 IARC Monographs on the 105</p> <p>24 Evaluation of Carcinogenic</p> <p>25 Risks to Humans</p>
<p style="text-align: right;">Page 3</p> <p>1 DEPOSITION OF PATRICIA MOORMAN, Ph.D.,</p> <p>2 M.S.P.H., a witness called on behalf of Defendant,</p> <p>3 before Amy A. Brauser, Notary Public, in and for the</p> <p>4 State of North Carolina, at Cambria Hotel & Suites</p> <p>5 Durham, 2306 Elba Street, Durham, North Carolina, on</p> <p>6 Monday, the 12th day of March, 2018, commencing at</p> <p>7 9:01 a.m.</p> <p>8 * * * * *</p> <p>9</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p>	<p style="text-align: right;">Page 5</p> <p>1 INDEX OF EXHIBITS (con't)</p> <p>2 Exhibit 8 Supplemental Selenium May 147</p> <p>3 Decrease Ovarian Cancer Risk in</p> <p>4 African-American Women</p> <p>5 Exhibit 9 Analgesic Medication Use and 149</p> <p>6 Risk of Epithelial Ovarian</p> <p>7 Cancer in African-American Women</p> <p>8 Exhibit 10 Dietary Quality and Ovarian 151</p> <p>9 Cancer Risk in African-American</p> <p>10 Women</p> <p>11 Exhibit 11 Socioeconomic Status in Relation 154</p> <p>12 to the Risk of Ovarian Cancer in</p> <p>13 African-American Women: A</p> <p>14 Population-Based Case-Control</p> <p>15 Study</p> <p>16 Exhibit 12 Ovarian Cancer Risk Factors 159</p> <p>17 in African-American and White</p> <p>18 Women</p> <p>19 Exhibit 13 Primary Peritoneal and Ovarian 167</p> <p>20 Cancers: An Epidemiological</p> <p>21 Comparative Analysis</p> <p>22 Exhibit 14 Racial/Ethnic Differences in 174</p> <p>23 the Epidemiology of Ovarian</p> <p>24 Cancer: A Pooled Analysis of</p> <p>25 12 Case-Control Studies</p>

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<p style="text-align: right;">Page 54</p> <p>1 THE WITNESS: I would say -- repeat the 2 question, please. 3 BY MR. HEGARTY: 4 Q. Sure. If I ask you the same series of 5 questions about talc without asbestos as it relates to 6 your primary opinion about talc increasing the risk of 7 ovarian cancer in users versus nonusers, but I asked 8 those same questions as to talc causing ovarian 9 cancer, you would give me the same answers; is that 10 correct? 11 MR. FARIES: Objection to form. 12 THE WITNESS: My answer would be that 13 talcum powder products on the basis of how women 14 reported them in these studies based on the 15 entire body of literature, yes, I would say that 16 talcum powder products, it can cause ovarian 17 cancer. 18 BY MR. HEGARTY: 19 Q. If the evidence establishes that Johnson 20 baby powder and Shower to Shower have been asbestos 21 free over the years, is it correct that you would not 22 have the opinion that Johnson baby powder and Shower 23 to Shower cause ovarian cancer? 24 MR. FARIES: Objection to form. Objection 25 to the incomplete hypothetical.</p>	<p style="text-align: right;">Page 56</p> <p>1 Q. When I talk about the studies looking at 2 asbestos and ovarian cancer, do you understand that 3 I'm separating those out of the talcum powder products 4 looking at ovarian cancer? Do you understand that? 5 A. Yes, I do understand that. 6 Q. And do you know how many studies that have 7 looked at asbestos exposure in ovarian cancer that are 8 occupational exposures? 9 A. I do not know the exact number. I know 10 that there have been quite a few. 11 Q. Do you know if there have been any 12 nonoccupational exposure studies looking at asbestos 13 exposure in ovarian cancer? 14 A. Yes, there are studies characterized as 15 more environmental asbestos exposure. 16 Q. Can you name for me any such studies? 17 A. I cannot name the specific authors. I 18 believe that there was a study that was done in 19 Australia where women were not directly occupationally 20 exposed, but it was thought that they had exposure 21 either through inhalation exposure or, perhaps, 22 through a family member involved in the industry. 23 Q. Do you know how many total women have been 24 studied in the studies looking at asbestos exposure in 25 asbestos -- I mean, in ovarian cancer?</p>
<p style="text-align: right;">Page 55</p> <p>1 BY MR. HEGARTY: 2 Q. You can answer. 3 A. Okay. My opinion is not based on -- 4 exclusively on them containing asbestos. My opinion 5 is based on the talcum powder products that the women 6 reported in our -- in the studies. 7 Q. Is it your opinion that asbestos causes 8 ovarian cancer? 9 A. Yes. 10 Q. Have you done an in-depth analysis of the 11 literature looking at asbestos exposure in ovarian 12 cancer? 13 A. I have looked at the literature related to 14 asbestos in ovarian cancer, yes. 15 Q. How many studies have looked at the 16 potential link between asbestos and ovarian cancer? 17 MR. FARIES: Objection to form. 18 THE WITNESS: I cannot give you an exact 19 answer. 20 BY MR. HEGARTY: 21 Q. Do you list all of the studies you 22 reviewed with regard to asbestos only in ovarian 23 cancer in your disclosure, Exhibit Number 3? 24 A. I don't know. I don't know. There have 25 been quite a lot of those studies.</p>	<p style="text-align: right;">Page 57</p> <p>1 A. I do not know the exact number. 2 Q. Are you aware of the difficulties that 3 have existed over time distinguishing between 4 peritoneal mesothelioma and ovarian cancer? 5 MR. FARIES: Objection to form. 6 THE WITNESS: I am aware that that has 7 been an issue that has been discussed in the 8 literature. 9 BY MR. HEGARTY: 10 Q. What are the difficulties in 11 distinguishing between peritoneal mesothelioma and 12 ovarian cancer? 13 MR. FARIES: Objection to form. 14 THE WITNESS: Many times ovarian cancer is 15 rather advanced when it is diagnosed, and there 16 can be some involvement throughout the 17 peritoneum, and sometimes -- so some authors 18 have indicated that it can be a little bit 19 difficult or have raised the opinion that it 20 might be difficult to distinguish between an 21 ovarian and a peritoneal. 22 BY MR. HEGARTY: 23 Q. That difficulty can lead to a 24 misclassification of cases in controls, correct? 25 A. That has been an issue discussed in the</p>

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<p style="text-align: right;">Page 58</p> <p>1 literature.</p> <p>2 Q. And misclassification -- such</p> <p>3 misclassification would also be called</p> <p>4 misclassification bias, correct?</p> <p>5 A. It -- yes, it is a potential bias, yes.</p> <p>6 Q. And such a potential bias can affect the</p> <p>7 results of any study looking at asbestos exposure in</p> <p>8 ovarian cancer, correct?</p> <p>9 MR. FARIES: Objection to form.</p> <p>10 THE WITNESS: Yes, we examine biases,</p> <p>11 potential biases because of our concern about</p> <p>12 how they might affect the conclusions of the</p> <p>13 study.</p> <p>14 BY MR. HEGARTY:</p> <p>15 Q. And have the studies that have looked at</p> <p>16 asbestos exposure in ovarian cancer considered</p> <p>17 confounding as it relates to whether you're looking at</p> <p>18 occupational versus nonoccupational -- strike that.</p> <p>19 Let me start over again.</p> <p>20 Have there been studies looking at or</p> <p>21 trying to address confounding as an independent risk</p> <p>22 factor?</p> <p>23 MR. FARIES: Objection to form.</p> <p>24 THE WITNESS: Off the top of my head, I</p> <p>25 can't recall the extent to which they address</p>	<p style="text-align: right;">Page 60</p> <p>1 conclusion either -- or either the overall conclusion</p> <p>2 or the -- the strength of the association that you're</p> <p>3 looking at.</p> <p>4 Q. Would you agree that exposure to asbestos</p> <p>5 through perineal cosmetic talc use, assuming that talc</p> <p>6 has asbestos in it, is different from an occupational</p> <p>7 exposure to asbestos in a factory or in a plant?</p> <p>8 MR. FARIES: Objection to form.</p> <p>9 THE WITNESS: So you -- is exposure to</p> <p>10 asbestos in an occupational exposure different</p> <p>11 than exposure through use in talcum powder?</p> <p>12 BY MR. HEGARTY:</p> <p>13 Q. Assuming for purpose of the question that</p> <p>14 talcum powder has asbestos in it.</p> <p>15 A. Has asbestos in it.</p> <p>16 MR. FARIES: Objection to form.</p> <p>17 THE WITNESS: They are somewhat different</p> <p>18 exposures.</p> <p>19 BY MR. HEGARTY:</p> <p>20 Q. How are they different?</p> <p>21 A. In the -- probably in the level of</p> <p>22 exposure.</p> <p>23 Q. Would you agree that studies that have</p> <p>24 looked at, for example, women working in factories</p> <p>25 where asbestos is part of the product have a different</p>
<p style="text-align: right;">Page 59</p> <p>1 confounding in those studies.</p> <p>2 BY MR. HEGARTY:</p> <p>3 Q. For example, in the talc ovarian cancer</p> <p>4 studies, a number of factors are adjusted for in those</p> <p>5 studies to address confounding, correct?</p> <p>6 A. Yes, that is very common.</p> <p>7 Q. And have the studies that have looked at</p> <p>8 asbestos exposure in ovarian cancer all accounted for</p> <p>9 or adjusted for potential confounding factors such as</p> <p>10 other risk factors for ovarian cancer?</p> <p>11 MR. FARIES: Objection to form.</p> <p>12 THE WITNESS: As I answered previously, I</p> <p>13 cannot recall in those studies the degree to</p> <p>14 which they controlled for confounding.</p> <p>15 BY MR. HEGARTY:</p> <p>16 Q. If studies don't control for confounding,</p> <p>17 again, that can lead to results that are potentially</p> <p>18 inaccurate, correct?</p> <p>19 MR. FARIES: Objection to form.</p> <p>20 THE WITNESS: If you do not control for</p> <p>21 confounding, it is a potential bias, yes.</p> <p>22 BY MR. HEGARTY:</p> <p>23 Q. And a potential bias can distort the</p> <p>24 results of the study, correct?</p> <p>25 A. It can lead to making an inaccurate</p>	<p style="text-align: right;">Page 61</p> <p>1 level of exposure than women who use talcum powder</p> <p>2 products, assuming for the question that there is even</p> <p>3 any talc -- any asbestos in talcum powder products?</p> <p>4 MR. FARIES: Objection to form.</p> <p>5 THE WITNESS: I think that it is</p> <p>6 reasonable to assume that women who are working</p> <p>7 in an occupation that makes asbestos-based</p> <p>8 products, that they're going to have a different</p> <p>9 level of exposure than women who have -- who use</p> <p>10 talcum powder products.</p> <p>11 BY MR. HEGARTY:</p> <p>12 Q. That different level of exposure would be</p> <p>13 a higher level of exposure, correct?</p> <p>14 A. In -- most likely, yes.</p> <p>15 Q. Have you made any effort to quantify the</p> <p>16 differences in exposures between the occupational</p> <p>17 studies looking at asbestos and ovarian cancer and</p> <p>18 studies looking at talcum powder products and ovarian</p> <p>19 cancer?</p> <p>20 A. I have -- I have not done that. However,</p> <p>21 I think that it is important to bear in mind that</p> <p>22 several authoritative bodies have designated that</p> <p>23 there is no safe level of asbestos exposure.</p> <p>24 Q. Is it your opinion that there is no safe</p> <p>25 level of asbestos exposure?</p>

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<p style="text-align: right;">Page 62</p> <p>1 A. It is my opinion.</p> <p>2 Q. And what is that opinion based on?</p> <p>3 A. My opinion is based on, as I said, several</p> <p>4 organizations: The World Health Organization, and I</p> <p>5 believe NIOSH has also indicate -- and The World Trade</p> <p>6 Organization. I believe that all of them have issued</p> <p>7 documents indicating that there is no safe level of</p> <p>8 asbestos exposure.</p> <p>9 Q. Any other authorities that you would cite</p> <p>10 to for support for your opinion that there is no safe</p> <p>11 level of asbestos exposure?</p> <p>12 A. Those are the ones that come to mind.</p> <p>13 Q. In the studies that have looked at</p> <p>14 asbestos exposure in ovarian cancer, what types of</p> <p>15 asbestos have they looked at?</p> <p>16 MR. FARIES: Objection to form.</p> <p>17 THE WITNESS: Once again, I -- I cannot</p> <p>18 recall specifically what they had looked at.</p> <p>19 BY MR. HEGARTY:</p> <p>20 Q. What is the most common type of asbestos?</p> <p>21 MR. FARIES: Objection to form.</p> <p>22 THE WITNESS: Once again, I want to point</p> <p>23 out that I am not a mineral specialist. My</p> <p>24 understanding is that all forms of asbestos are</p> <p>25 not good for you and all should be avoided, so</p>	<p style="text-align: right;">Page 64</p> <p>1 which subtypes were considered.</p> <p>2 Q. Generally what had been the range of</p> <p>3 relative risks or odds ratios reported between</p> <p>4 asbestos exposure and ovarian cancer?</p> <p>5 MR. FARIES: Objection to form.</p> <p>6 THE WITNESS: You know, there have been</p> <p>7 many papers that have -- that I have looked at.</p> <p>8 All of the papers have many numbers reported in</p> <p>9 them, so it's rather hard to say precisely. It</p> <p>10 seems like most of them are in the range of</p> <p>11 standard mortality ratios around 3ish.</p> <p>12 BY MR. HEGARTY:</p> <p>13 Q. Well, do you have an opinion as to the</p> <p>14 overall relative risk of ovarian cancer with talcum</p> <p>15 powder product use?</p> <p>16 A. The range, the overall --</p> <p>17 Q. Let me ask it again. Do you have a</p> <p>18 particular relative risk or odds ratio that you</p> <p>19 attribute to exposure to talcum powder products in</p> <p>20 ovarian cancer?</p> <p>21 A. Okay.</p> <p>22 MR. FARIES: Objection to form.</p> <p>23 THE WITNESS: Based on multiple</p> <p>24 meta-analyses, the summary relative risk, the</p> <p>25 overall relative risk associated with talcum</p>
<p style="text-align: right;">Page 63</p> <p>1 I -- I really never considered that as I, you</p> <p>2 know, evaluated or read that literature.</p> <p>3 BY MR. HEGARTY:</p> <p>4 Q. Can you name the various types of</p> <p>5 asbestos?</p> <p>6 A. Some of them.</p> <p>7 Q. Tell me the names that you know.</p> <p>8 A. Tremolite and chrysotile, and I know there</p> <p>9 are others, but I can't recall them.</p> <p>10 Q. Does the effect of various types of</p> <p>11 asbestos -- strike that.</p> <p>12 Is the risk of ovarian cancer affected by</p> <p>13 the type of asbestos to which a person is exposed to?</p> <p>14 In other words, is the risk different by -- based on</p> <p>15 subtype or subtype of asbestos?</p> <p>16 MR. FARIES: Objection to form.</p> <p>17 THE WITNESS: I don't know that any</p> <p>18 literature has actually evaluated that. I . . .</p> <p>19 BY MR. HEGARTY:</p> <p>20 Q. How about as to subtype of ovarian cancer,</p> <p>21 is there certain subtypes of ovarian cancer that are</p> <p>22 believed more strongly linked to asbestos exposure</p> <p>23 than others?</p> <p>24 A. I don't recall in the studies that have</p> <p>25 looked at it in relation to asbestos, the extent to</p>	<p style="text-align: right;">Page 65</p> <p>1 powder use has been approximately 1.25, 1.3.</p> <p>2 BY MR. HEGARTY:</p> <p>3 Q. And have you determined such a overall</p> <p>4 relative risk for asbestos exposure in ovarian cancer?</p> <p>5 A. There have been meta-analyses that have</p> <p>6 looked at that. Off the top of my head, I cannot</p> <p>7 recall the exact value.</p> <p>8 MR. FARIES: I'm sorry, can we pause for a</p> <p>9 second? I'm going to see if I can get these</p> <p>10 guys in the hallway outside just to quiet down</p> <p>11 for a sec.</p> <p>12 (DISCUSSION HELD OFF THE RECORD)</p> <p>13 BY MR. HEGARTY:</p> <p>14 Q. The last question really went back to the</p> <p>15 previous one where I had asked you whether you</p> <p>16 formulated an opinion or came to an overall relative</p> <p>17 risk or odds ratio for talcum powder use in ovarian</p> <p>18 cancer that you then responded by saying as 1.25 to</p> <p>19 1.3. So my question was whether you've done the same</p> <p>20 thing as to the literature looking at asbestos</p> <p>21 exposure and to be more specifically, occupational</p> <p>22 asbestos exposure and ovarian cancer?</p> <p>23 MR. FARIES: Objection to form.</p> <p>24 THE WITNESS: Okay. Once again, I have</p> <p>25 read that literature, and I have read hundreds</p>

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<p style="text-align: right;">Page 118</p> <p>1 THE WITNESS: I can't recall any -- any</p> <p>2 document that has that exact phrasing.</p> <p>3 BY MR. HEGARTY:</p> <p>4 Q. Can you cite for me any author in any</p> <p>5 publication who has ever stated that use of talcum</p> <p>6 powder products increase the risk of ovarian cancer?</p> <p>7 A. I'm just having trouble recalling any</p> <p>8 specific wording like that.</p> <p>9 Q. Can you identify for me any doctor who</p> <p>10 treats ovarian cancer who has the same opinions you do</p> <p>11 about cause?</p> <p>12 MR. FARIES: Objection to form.</p> <p>13 THE WITNESS: I actually have not</p> <p>14 discussed that with -- that specific question</p> <p>15 with any gynecologic oncologist.</p> <p>16 BY MR. HEGARTY:</p> <p>17 Q. Have you discussed with any gynecologic</p> <p>18 oncologist your opinion that talcum powder products</p> <p>19 increase the risk of ovarian cancer?</p> <p>20 A. I have not had a specific discussion in</p> <p>21 that regard, no.</p> <p>22 Q. You provided to us the primary opinion in</p> <p>23 this case that women who use talcum powder products</p> <p>24 are at a higher risk of ovarian cancer than women who</p> <p>25 did not use them. Do you recall making that</p>	<p style="text-align: right;">Page 120</p> <p>1 products are at a higher risk of ovarian cancer than</p> <p>2 women who did not use them?</p> <p>3 A. That is correct.</p> <p>4 Q. And before you were contacted by</p> <p>5 Mr. Gibson or Ms. Parfitt, I take it from your last</p> <p>6 answer, that you had not come -- yet come to the</p> <p>7 opinion that talcum powder products cause ovarian</p> <p>8 cancer, correct?</p> <p>9 MR. FARIES: Objection to form.</p> <p>10 THE WITNESS: I -- epidemiologists by</p> <p>11 nature tend to be very cautious. And it was,</p> <p>12 you know, reviewing all of the literature in</p> <p>13 probably more detail than I had ever reviewed it</p> <p>14 before led me to come to the conclusion that I</p> <p>15 think that the evidence is strong enough to say</p> <p>16 with a reasonable degree of scientific certainty</p> <p>17 that talc use can cause ovarian cancer.</p> <p>18 BY MR. HEGARTY:</p> <p>19 Q. Have you ever used, before being contacted</p> <p>20 by Plaintiffs' counsel in this case, the phrase</p> <p>21 "reasonable degree of scientific certainty"?</p> <p>22 A. I don't think that I have.</p> <p>23 Q. What does that phrase mean to you?</p> <p>24 A. I take it to mean that when considering</p> <p>25 the bulk -- the overall evidence, that it is</p>
<p style="text-align: right;">Page 119</p> <p>1 statement?</p> <p>2 A. I do.</p> <p>3 Q. Did you have that opinion before being</p> <p>4 contacted by Plaintiffs' counsel in this case?</p> <p>5 A. I had the opinion that women who use body</p> <p>6 powder are at increased risk for ovarian cancer for,</p> <p>7 yes, before I was contacted by the Plaintiffs'</p> <p>8 attorneys.</p> <p>9 Q. You also provided the opinion that women</p> <p>10 who use that -- strike that.</p> <p>11 You also provided the opinion that talcum</p> <p>12 powder products cause ovarian cancer. Do you recall</p> <p>13 making -- telling us that today?</p> <p>14 A. I do.</p> <p>15 Q. Did you have that opinion before being</p> <p>16 contacted by Plaintiffs' counsel in this case?</p> <p>17 A. My opinion, I think that it became</p> <p>18 stronger as I reviewed the body of literature in -- in</p> <p>19 relation to this. It was -- I held the opinion that</p> <p>20 it was a risk factor. It became stronger as I really</p> <p>21 delved into it in greater detail.</p> <p>22 Q. And let me make sure I'm clear on</p> <p>23 Plaintiffs' counsel. Before being contacted by</p> <p>24 Mr. Gibson or Ms. Parfitt is it your testimony that it</p> <p>25 was your opinion that women who used talcum powder</p>	<p style="text-align: right;">Page 121</p> <p>1 reasonable to make that statement. I think that it</p> <p>2 takes -- it takes into account that science evolves</p> <p>3 and there may be additional data that could arise</p> <p>4 and -- in which the opinion may evolve, but based on</p> <p>5 the body of evidence now I do feel that there is</p> <p>6 reasonable scientific certainty.</p> <p>7 Q. With regard to your prior testimony as to</p> <p>8 looking at cause versus increased risk, you mentioned</p> <p>9 that that opinion came after you had done an in-depth</p> <p>10 review, correct?</p> <p>11 A. That is correct.</p> <p>12 Q. So it would be a fair statement to say</p> <p>13 before you were contacted by either Mr. Gibson or</p> <p>14 Ms. Parfitt that you had not done an in-depth review</p> <p>15 of all of the literature concerning talcum powder</p> <p>16 products and ovarian cancer, correct?</p> <p>17 MR. FARIES: Objection to form.</p> <p>18 THE WITNESS: I think that it is a matter</p> <p>19 of degree. I think that I was aware of the</p> <p>20 epidemiologic studies that had addressed this.</p> <p>21 And as I was -- after I was contacted about this</p> <p>22 case, I tried to do a very critical, very</p> <p>23 in-depth reviews.</p> <p>24 BY MR. HEGARTY:</p> <p>25 Q. A review you had not yet done before being</p>

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<p style="text-align: right;">Page 122</p> <p>1 contacted by Ms. Parfitt and/or Mr. Gibson, correct?</p> <p>2 MR. FARIES: Objection to form.</p> <p>3 THE WITNESS: As I said, I think that it</p> <p>4 is not a matter of had I not or had I done it, I</p> <p>5 think that it was, perhaps, the level of detail.</p> <p>6 BY MR. HEGARTY:</p> <p>7 Q. You did a more detailed review and</p> <p>8 analysis after being contacted by Ms. Parfitt and/or</p> <p>9 Mr. Gibson than you had done before they had contacted</p> <p>10 you, correct?</p> <p>11 MR. FARIES: Objection to form.</p> <p>12 THE WITNESS: Correct.</p> <p>13 BY MR. HEGARTY:</p> <p>14 Q. Have you ever provided the opinions you've</p> <p>15 given us here today to any doctor who has ever treated</p> <p>16 a patient for ovarian cancer?</p> <p>17 A. I have not.</p> <p>18 Q. That includes any doctor at Duke, correct?</p> <p>19 A. That is correct.</p> <p>20 Q. You've not told your opinions about talc</p> <p>21 and ovarian cancer to any doctor in your own medical</p> <p>22 school, correct?</p> <p>23 MR. FARIES: Objection to form, asked and</p> <p>24 answered.</p> <p>25 THE WITNESS: That is correct.</p>	<p style="text-align: right;">Page 124</p> <p>1 MR. FARIES: Objection to form.</p> <p>2 THE WITNESS: The only discussion that I</p> <p>3 had about my involvement in this was with an</p> <p>4 author. It was a former student, and she had</p> <p>5 been contacted by an attorney and asked me what</p> <p>6 I thought about it and if I had had any</p> <p>7 involvement. And I had just mentioned to her</p> <p>8 that I was working with the Plaintiffs'</p> <p>9 attorney. But I have not discussed otherwise.</p> <p>10 BY MR. HEGARTY:</p> <p>11 Q. Who was that person?</p> <p>12 A. Who was the person?</p> <p>13 Q. Yes.</p> <p>14 A. Her name is Rachel Weber.</p> <p>15 Q. When did this discussion happen?</p> <p>16 A. I believe it was in the fall of last year.</p> <p>17 Q. Would it be a fair statement that with</p> <p>18 regard to the opinions you've offered in this case,</p> <p>19 that you've held those opinions for at least a year?</p> <p>20 MR. FARIES: Objection to form.</p> <p>21 THE WITNESS: Yes, that is a fair</p> <p>22 statement.</p> <p>23 BY MR. HEGARTY:</p> <p>24 Q. Sitting here today you're not testifying</p> <p>25 on behalf of Duke University, correct?</p>
<p style="text-align: right;">Page 123</p> <p>1 BY MR. HEGARTY:</p> <p>2 Q. Do you know any of the gynecologic</p> <p>3 oncologists at Duke?</p> <p>4 A. Yes, I do.</p> <p>5 Q. Can you name for me the ones you know?</p> <p>6 A. I know Dr. Andrew Berchuck, Dr. Laura</p> <p>7 Havrilesky. I have met Angeles Alvarez Secord. I</p> <p>8 believe those are the ones that I know.</p> <p>9 Q. You've not spoken to them about your</p> <p>10 opinions that you provided here today, correct?</p> <p>11 A. I have not had a direct conversation with</p> <p>12 them.</p> <p>13 Q. Well, have you had any conversation with</p> <p>14 them about your opinions in this case?</p> <p>15 A. No, I have not.</p> <p>16 Q. Have you told any of the authors that</p> <p>17 you're on in the Schildkraut paper of your opinions in</p> <p>18 this case?</p> <p>19 MR. FARIES: Objection to form.</p> <p>20 THE WITNESS: No, I have not discussed my</p> <p>21 involvement in this case with any of the</p> <p>22 authors.</p> <p>23 BY MR. HEGARTY:</p> <p>24 Q. How about any of the authors on any of the</p> <p>25 papers you've been on?</p>	<p style="text-align: right;">Page 125</p> <p>1 A. No, I am not.</p> <p>2 Q. You're not coming here today testifying</p> <p>3 that Duke University or the Duke Medical School has</p> <p>4 the same opinions that you do, correct?</p> <p>5 MR. FARIES: Objection to form.</p> <p>6 THE WITNESS: No, I am not.</p> <p>7 BY MR. HEGARTY:</p> <p>8 Q. You're here on your own behalf, right?</p> <p>9 A. That is correct.</p> <p>10 Q. And the opinions you hold are your own</p> <p>11 opinions, right?</p> <p>12 A. That is correct.</p> <p>13 Q. Can you identify for me any regulatory</p> <p>14 body who has required a warning concerning genital</p> <p>15 talc use and ovarian cancer?</p> <p>16 MR. FARIES: Objection to form.</p> <p>17 THE WITNESS: No, I cannot.</p> <p>18 BY MR. HEGARTY:</p> <p>19 Q. How about any regulatory body who has</p> <p>20 concluded that genital talcum powder use is a risk</p> <p>21 factor or a cause of ovarian cancer?</p> <p>22 MR. FARIES: Objection to form.</p> <p>23 THE WITNESS: No, I cannot.</p> <p>24 BY MR. HEGARTY:</p> <p>25 Q. Outside of your work with Plaintiffs'</p>

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<p style="text-align: right;">Page 126</p> <p>1 counsel, has anyone before being contacted by 2 Plaintiffs' counsel sought out your opinions regarding 3 talc and ovarian cancer? 4 A. Before Plaintiffs' counsel -- 5 Q. Yes. 6 A. -- contacted me, has anybody else sought 7 out my opinion? 8 Q. Correct. 9 A. No. 10 Q. Before being contacted by Plaintiffs' 11 counsel, has anybody sought out your opinion on 12 whether talcum powder products increase the risk of 13 ovarian cancer? 14 A. No. 15 Q. Or about potential causes of ovarian 16 cancer, generally? Has anybody -- strike that. 17 Has anybody sought out your opinions, 18 generally, about the causes of ovarian cancer? 19 A. I'm not sure exactly how to interpret that 20 question. I have -- you know, I have done things over 21 the course of my career such as reviewing grant 22 applications, several years ago participated in a CDC 23 panel about ovarian cancer. And so those I think that 24 it would be fair to characterize them as people 25 seeking my opinion about -- my -- my opinion, my</p>	<p style="text-align: right;">Page 128</p> <p>1 specifically a cancer epidemiology course. 2 Q. Have you ever provided to any of your 3 peers in any lecture format or otherwise the opinions 4 you've offered here today? 5 A. No, I have not. 6 Q. Do you consider yourself an expert in the 7 possible association between asbestos -- strike that. 8 Do you consider yourself to be an expert 9 in asbestos-causing ovarian cancer? 10 MR. FARIES: Objection to form. 11 THE WITNESS: I consider myself to be an 12 expert in the epidemiology of ovarian cancer. I 13 do not consider myself to be, specifically, an 14 expert about asbestos. 15 BY MR. HEGARTY: 16 Q. Have you conducted any original research 17 on asbestos in talcum powder products and ovarian 18 cancer? 19 MR. FARIES: Objection to form. 20 THE WITNESS: Please state that again. 21 BY MR. HEGARTY: 22 Q. Sure. Have you conducted any original 23 research looking at the potential for asbestos to be 24 in talcum powder products? 25 A. I think this goes back to the questions</p>
<p style="text-align: right;">Page 127</p> <p>1 knowledge about ovarian cancer. 2 Q. I'd asked you previously about your 3 opinions before being contacted by Plaintiffs' counsel 4 through the present date. Have you provided the 5 opinions you've given us here today to any group, 6 person or entity outside of this litigation? 7 MR. FARIES: Objection to form. 8 THE WITNESS: No, I have not. 9 BY MR. HEGARTY: 10 Q. Has NCI ever sought out your opinions with 11 regard to talcum powder products and ovarian cancer? 12 A. No, they have not. 13 Q. How about any scientific or medical body 14 or organization? 15 A. No, they have not. 16 Q. Do you teach courses? 17 A. Yes, I do. 18 Q. Is that currently? 19 A. Yes. 20 Q. Have you ever taught to any of your 21 opinions -- have you ever taught to any of the 22 students in your classes the opinions you've provided 23 to us here today? 24 A. No, I do not teach -- the course that I 25 teach is called, Evidence-based Medicine. It is not</p>	<p style="text-align: right;">Page 129</p> <p>1 that you've asked earlier. As you clearly know, we 2 did do a study that was evaluating talcum powder in 3 relation to ovarian cancer, and so talcum powder with 4 all its constituents. We would not be able to 5 distinguish between asbestos-containing and 6 nonasbestos-containing talcum powder. 7 Q. My question is a little bit different. 8 You had commented earlier about reviewing studies or 9 literature that has commented on the potential for 10 asbestos to be in talcum powder products. Do you 11 recall saying that earlier? 12 A. That I looked at some of those studies. 13 Q. Have you ever been involved in any study 14 looking at whether talcum powder products actually had 15 asbestos in them? 16 MR. FARIES: Objection to form. 17 THE WITNESS: Once again, that is outside 18 of my realm of expertise. I do not do any 19 mineral studies, testing, like that. 20 BY MR. HEGARTY: 21 Q. Has there been any study looking at 22 actually asbestos in talcum powder products and that 23 link -- and such a link -- strike that. Let me say it 24 again. 25 Have there been, actually, any studies</p>

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<p style="text-align: right;">Page 130</p> <p>1 that have identified products, talcum powder products, 2 that actually have asbestos in them and looking at 3 those products link to ovarian cancer? 4 MR. FARIES: Objection to form. 5 THE WITNESS: I think that it goes back to 6 the same thing that I've said before. There is 7 no way to do studies of ovarian cancer and -- in 8 relation to talcum powder use to distinguish 9 between asbestos-containing or not. 10 BY MR. HEGARTY: 11 Q. You are not a medical doctor, correct? 12 A. That is correct. 13 Q. And you have never been involved in the 14 care and treatment of a patient with ovarian cancer, 15 correct? 16 A. No, I have not. 17 Q. You are not authorized to treat patients, 18 correct? 19 A. No, I am not. 20 Q. And you have never analyzed a patient's 21 risk factors for ovarian cancer, true? 22 A. No, I have not. 23 Q. You have never attempted to look at a 24 patient's risk factors and determine which factor, if 25 any, had anything to do with their ovarian cancer,</p>	<p style="text-align: right;">Page 132</p> <p>1 MR. FARIES: Objection to form. 2 THE WITNESS: I know several women who 3 have ovarian cancer. I have not spoken to them, 4 specifically, about their use of talcum powder. 5 But it is a quite ubiquitous exposure, so it is 6 very possible that they did have that exposure. 7 BY MR. HEGARTY: 8 Q. Is it correct that you don't intend, in 9 this case, to offer the opinion that any particular 10 woman's use of talcum powder products caused their 11 ovarian cancer? 12 A. I was asked to comment on the general 13 causation meaning it is pulling on my expertise as a 14 population scientist. I will not be commenting on any 15 specific woman. 16 Q. If we talk about statistical significance 17 and if we look at relative risk or odds ratios, in 18 that analysis one is considered the null value, 19 correct? 20 A. That is correct. 21 Q. And null value would indicate no 22 association between the exposure you're looking at and 23 the disease you're looking at, correct? 24 A. Yes. 25 Q. If a study is statistically significant,</p>
<p style="text-align: right;">Page 131</p> <p>1 correct? 2 A. No. 3 Q. Are you aware of a method published in the 4 medical literature for reliably determining the cause 5 of an individual patient's ovarian cancer? 6 MR. FARIES: Objection to form. 7 THE WITNESS: I'm not aware of anything 8 like that. 9 BY MR. HEGARTY: 10 Q. Do you know the names of the plaintiffs in 11 this case? 12 MR. FARIES: Objection to form. 13 THE WITNESS: No, I do not. 14 BY MR. HEGARTY: 15 Q. Do you know how many plaintiffs are in 16 this case? 17 A. No, I do not. 18 Q. Do you know anything about them, where 19 they live, where they grew up, their asbestos -- their 20 asbestos exposures, their talcum powder product 21 exposure? Do you know any of that information? 22 A. No, I do not. 23 Q. Do you have any personal knowledge of any 24 patient who has used talcum powder products and 25 developed ovarian cancer?</p>	<p style="text-align: right;">Page 133</p> <p>1 it means that the likelihood of the result is caused 2 by something other than random chance, correct? 3 MR. FARIES: Objection to form. 4 THE WITNESS: The statistical significance 5 is one tool that we use to evaluate the results 6 from a study. 7 BY MR. HEGARTY: 8 Q. Let me ask it a different way. 9 A. Okay. 10 Q. If a study is not statistically 11 significant, it means the result could be due to 12 random chance, correct? 13 MR. FARIES: Objection to form. 14 THE WITNESS: Okay. It is -- if it is not 15 statistically significant that -- and you 16 give -- a 95 percent confidence interval is 17 reported, that is indicating that if you had 18 taken another sample from the population, this 19 is a plausible range of values that would be 20 statistically possible if you were able to 21 repeat the study. 22 BY MR. HEGARTY: 23 Q. And a confidence interval includes the 24 value of one to a 95 percent -- a 95 percent 25 confidence interval would mean that the result could</p>

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<p style="text-align: right;">Page 142</p> <p>1 likely to be concerned about the potential effect on 2 that finding by confounders or biases? 3 MR. FARIES: Objection to form. 4 THE WITNESS: You would be concerned about 5 confounding regardless of the strength of the 6 association. If it is a relative risk that is 7 very large, it would have to be a factor that 8 was associated with both the exposure, in that 9 case the smoking, and the outcome to a similar 10 degree of strength. 11 MR. FARIES: Okay. Mark, can you find a 12 stopping point here -- 13 MR. HEGARTY: Yeah. 14 MR. FARIES: -- shortly? 15 MR. HEGARTY: Give me about -- just about 16 a few minutes -- 17 MR. FARIES: Okay. 18 MR. HEGARTY: -- and then I'll be done. A 19 few minutes here. 20 BY MR. HEGARTY: 21 Q. Do you agree that the size of an odds 22 ratio or relative risk is an important consideration 23 in evaluating the plausibility of a causal 24 relationship between the exposure and the disease? 25 MR. FARIES: Objection to form.</p>	<p style="text-align: right;">Page 144</p> <p>1 same thing? 2 A. In a general sense, yes. 3 Q. Do you agree that epidemiologic -- 4 epidemiology or epidemiologic evidence by itself is 5 insufficient to establish causality? 6 MR. FARIES: Objection to form. 7 THE WITNESS: When we -- again, in 8 epidemiology, we often rely on the Bradford Hill 9 criteria. And it's not just the epidemiologic 10 evidence, but a very important consideration is 11 the consideration of a plausible biological 12 mechanism. 13 BY MR. HEGARTY: 14 Q. And consideration of a plausible biologic 15 mechanism would take the analysis beyond just 16 epidemiologic studies, correct? 17 A. It would consider data from beyond the 18 epidemiologic study, yes. 19 Q. Do you agree that a risk factor is not 20 necessarily a causal factor? 21 MR. FARIES: Objection to form. 22 THE WITNESS: I -- I do agree that there 23 are examples of that, yes. 24 BY MR. HEGARTY: 25 Q. Have you ever been on a panel for a CDC?</p>
<p style="text-align: right;">Page 143</p> <p>1 THE WITNESS: One considers the size of 2 the odds ratio, but one would also bear in mind, 3 and it is pointed out in numerous papers, that 4 some associations may be smaller in magnitude 5 but still plausible and real. 6 BY MR. HEGARTY: 7 Q. When you say it's a consideration, what do 8 you mean? The size of the relative risk or odds ratio 9 is a consideration in assessing a causal relationship 10 between the exposure and the disease? 11 A. Okay. You know, as I have stated earlier, 12 the Bradford Hill viewpoints, I don't want to use word 13 "criteria" because he doesn't use that, but the 14 strength of the association is one of the 15 considerations that is described there. So it's -- it 16 is taken into account in the total picture. 17 Q. Do you agree that in looking at 18 epidemiologic studies the presence of an association 19 does not establish a causal relationship? 20 MR. FARIES: Objection to form. 21 THE WITNESS: Okay. That is what we 22 always -- one of the first things we teach 23 students, that correlation is not causation. 24 BY MR. HEGARTY: 25 Q. And is correlation and association the</p>	<p style="text-align: right;">Page 145</p> <p>1 MR. FARIES: I'm sorry, is this not a good 2 breaking point now? 3 MR. HEGARTY: Oh, yeah. No, we can do a 4 breaking point. We can do it now. 5 MR. FARIES: Yeah, let's do it now. 6 (RECESS TAKEN FROM 12:28 P.M. TO 1:30 P.M.) 7 BY MR. HEGARTY: 8 Q. Dr. Moorman, when you do a case-control 9 study, you adjust for confounders that are also risk 10 factors that you believe may have an effect on the 11 results of the study, correct? 12 A. Yes, we consider confounders, yes. 13 Q. Is a confounder the same thing as a risk 14 factor? 15 MR. FARIES: Objection to form. 16 THE WITNESS: A confounder is a factor 17 that is associated with the outcome and is also 18 associated with the exposure that you're 19 interested in. So it should have some -- it 20 should be associated with the outcome. 21 BY MR. HEGARTY: 22 Q. Your intent when you do studies is to 23 adjust for all risk factors that are -- could be 24 associated with the outcome, correct? 25 MR. FARIES: Objection to form.</p>

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<p style="text-align: right;">Page 146</p> <p>1 THE WITNESS: I do want to make that a 2 little bit more nuanced. We -- our objective is 3 to consider them. Sometimes when you do the 4 analysis you might do it in an iterative process 5 and so you might consider a factor as a 6 potential confounder. If it does not change the 7 overall association, you may not necessarily 8 keep that in your final statistical model. 9 BY MR. HEGARTY: 10 Q. But you agree that in papers where you 11 have been an author and looking at -- at risk factors 12 for ovarian cancer that you have not included as a 13 confounder body powder use, correct? 14 MR. FARIES: Objection to form. 15 THE WITNESS: I don't believe that is an 16 absolute accurate statement. I think that we 17 may have considered it. As I said, it may not 18 have -- if we put it into a model and it made no 19 difference, then there would be no need to 20 adjust for it. 21 BY MR. HEGARTY: 22 Q. Did the paper reflect whether you 23 considered it, that is body powder use as a risk 24 factor, and decided not to adjust for it? 25 A. It -- I can't say that with absolute</p>	<p style="text-align: right;">Page 148</p> <p>1 results section. Do you see that? 2 A. Yes. 3 Q. The first line there says: (Reading) 4 As expected, established 5 ovarian cancer risk factors differ 6 between cases and controls. 7 You cite the Table 1, correct? 8 A. Yes. 9 Q. You did not include in Table 1 body powder 10 exposure as an established ovarian cancer risk factor, 11 correct? 12 A. No, Dr. Terry did not include that in this 13 table. 14 Q. You did not recommend that she include 15 that in this table either, did you? 16 MR. FARIES: Objection to form. 17 THE WITNESS: No, I did not make that 18 recommendation. 19 BY MR. HEGARTY: 20 Q. That's all I have as to that study. 21 MR. KLATT: I'm sorry, what was that 22 exhibit? 23 MR. HEGARTY: 8. 24 MS. PARFITT: 8. 25 MR. FARIES: You write that on there?</p>
<p style="text-align: right;">Page 147</p> <p>1 certainty. It is typical to describe the factors that 2 you considered as risk factors. 3 Q. I'm going to hand you what I marked as 4 Exhibit Number 8. 5 A. Okay. 6 (EXHIBIT NUMBER 8 WAS MARKED FOR IDENTIFICATION) 7 MR. FARIES: Thank you. 8 BY MR. HEGARTY: 9 Q. This is a paper in which you were a 10 coauthor on entitled, Supplemental Selenium May 11 Decrease Ovarian Cancer Risk in African-American 12 Women. Is that correct? 13 A. Yes. 14 Q. This was published -- well, it says at the 15 bottom: (Reading) 16 Manuscript received 17 October 20, 2016; initial review 18 completed November 23rd, 2016; 19 revisions accepted January 17th, 2017. 20 Correct? 21 A. That is correct. 22 Q. Then it notes it was first published 23 online on February 15, 2017, correct? 24 A. Correct. 25 Q. If you turn over to page 2 under the</p>	<p style="text-align: right;">Page 149</p> <p>1 MR. KLATT: Do you want me to? On the 2 article? 3 MR. HEGARTY: Yeah, on the article itself. 4 (EXHIBIT NUMBER 9 WAS MARKED FOR IDENTIFICATION) 5 BY MR. HEGARTY: 6 Q. I'm going to show you what I've marked as 7 Exhibit 9. This is another paper in which you were an 8 author on, correct? 9 A. Yes. 10 Q. That paper is entitled, Analgesic 11 Medication Use and Risk of Epithelial Ovarian Cancer 12 in African-American Women. Correct? 13 A. Yes. 14 Q. If you look over on page 823, Tables 2 15 and 3 and even Table 1 did not include body powder or 16 talcum powder use as a confounder that was adjusted 17 for, correct? 18 (WITNESS REVIEWS DOCUMENT) 19 A. That is correct. 20 Q. Did you recommend to the author, Lauren 21 Peres, that they include talcum powder use or body 22 powder use as a potential confounder to consider in 23 this -- this analysis? 24 A. I do not recall that I did that, no. 25 Q. And why would you not have made that</p>

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<p style="text-align: right;">Page 150</p> <p>1 recommendation?</p> <p>2 A. I don't know exactly what my thought</p> <p>3 process would have been. In this paper, Dr. Peres is</p> <p>4 a post-doc under the direction of Dr. Schildkraut and</p> <p>5 many times in this situation, the coauthors are not</p> <p>6 involved in every decision along the way and so I</p> <p>7 don't know the entire thought process that they went</p> <p>8 through when they decided which factors they were</p> <p>9 going to use including their statistical model.</p> <p>10 Q. Well, when you say "they," you're one of</p> <p>11 the listed authors, right?</p> <p>12 A. I am one of the listed authors, yes.</p> <p>13 Q. You read that paper and signed off on it</p> <p>14 before it was published, correct?</p> <p>15 A. Yes.</p> <p>16 Q. You had the ability in that paper and in</p> <p>17 the paper we just looked at, Exhibit Number 8, to</p> <p>18 recommend adjustment for other risk factors, correct?</p> <p>19 MR. FARIES: Objection to form.</p> <p>20 THE WITNESS: That is correct.</p> <p>21 BY MR. HEGARTY:</p> <p>22 Q. You did not do so as it relates to body</p> <p>23 powder or talcum powder use, correct?</p> <p>24 A. No, I did not.</p> <p>25 Q. This -- these papers use the same study</p>	<p style="text-align: right;">Page 152</p> <p>1 MR. FARIES: Thank you.</p> <p>2 BY MR. HEGARTY:</p> <p>3 Q. This is another paper in which you are an</p> <p>4 author, correct?</p> <p>5 A. That is correct.</p> <p>6 Q. This is a paper whose lead author is</p> <p>7 Bo Qin; is that correct?</p> <p>8 A. Yes.</p> <p>9 MR. KLATT: Mark, do you mind reading the</p> <p>10 title?</p> <p>11 MR. HEGARTY: Yeah, just a second.</p> <p>12 BY MR. HEGARTY:</p> <p>13 Q. The title of that paper is, Dietary</p> <p>14 Quality and Ovarian Cancer Risk in African-American</p> <p>15 Women, correct?</p> <p>16 A. That is correct.</p> <p>17 Q. If you turn over to -- first of all, if</p> <p>18 you look at this paper, first page it said it was</p> <p>19 accepted for publication on June 8th, 2016, correct?</p> <p>20 A. Yes.</p> <p>21 Q. If you turn over to page 1282 under the</p> <p>22 section, Statistical Analysis. Do you see that</p> <p>23 section?</p> <p>24 A. Yes, I do.</p> <p>25 Q. Towards the bottom of the second full</p>
<p style="text-align: right;">Page 151</p> <p>1 population that you have been working from, the North</p> <p>2 Carolina and/or the African-American study, in which</p> <p>3 you do have information as far as body powder use,</p> <p>4 correct, right?</p> <p>5 MR. FARIES: Objection to form.</p> <p>6 THE WITNESS: Yes.</p> <p>7 BY MR. HEGARTY:</p> <p>8 Q. And you stand behind every word that's</p> <p>9 published in these papers, correct, as an author?</p> <p>10 MR. FARIES: Objection to form.</p> <p>11 THE WITNESS: I stand behind these papers</p> <p>12 in the -- in the way that authors stand behind</p> <p>13 them. It's -- I did not write every word. In</p> <p>14 fact, I did not write these papers, and I felt</p> <p>15 like overall they were appropriate. The data</p> <p>16 was -- I didn't have objections to how the --</p> <p>17 the data were presented.</p> <p>18 BY MR. HEGARTY:</p> <p>19 Q. And all the authors, the lead authors, are</p> <p>20 certainly competent and respectable scientists,</p> <p>21 correct?</p> <p>22 A. Yes.</p> <p>23 Q. I'm going to show you what I next marked</p> <p>24 as Exhibit Number 10.</p> <p>25 (EXHIBIT NUMBER 10 WAS MARKED FOR IDENTIFICATION)</p>	<p style="text-align: right;">Page 153</p> <p>1 paragraph it notes that: (Reading)</p> <p>2 The multi-variant adjusted</p> <p>3 model further considered a priority</p> <p>4 the potential confounders or risk</p> <p>5 factors for ovarian cancer of . . .</p> <p>6 And then it lists a number of risk</p> <p>7 factors, correct?</p> <p>8 A. Correct.</p> <p>9 Q. And body powder use is not listed,</p> <p>10 correct?</p> <p>11 A. Correct.</p> <p>12 Q. This paper also did not adjust for body</p> <p>13 powder/talcum powder use, correct?</p> <p>14 A. Correct.</p> <p>15 Q. You, likewise, had the opportunity to make</p> <p>16 that recommendation if you thought that was</p> <p>17 appropriate to do so, right?</p> <p>18 A. Yes.</p> <p>19 Q. And you felt that the paper as presented</p> <p>20 was appropriate, correct?</p> <p>21 MR. FARIES: Objection to form.</p> <p>22 THE WITNESS: Yes.</p> <p>23 BY MR. HEGARTY:</p> <p>24 Q. Next paper I'm going to show you is one I</p> <p>25 marked as Exhibit Number 11.</p>

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<p style="text-align: right;">Page 154</p> <p>1 (EXHIBIT NUMBER 11 WAS MARKED FOR IDENTIFICATION)</p> <p>2 BY MR. HEGARTY:</p> <p>3 Q. This is a paper entitled, Socioeconomic</p> <p>4 Status in Relation to the Risk of Ovarian Cancer in</p> <p>5 African-American Women: A Population-Based</p> <p>6 Case-Control Study. Correct?</p> <p>7 A. Correct.</p> <p>8 Q. You're also an author on this study; is</p> <p>9 that right?</p> <p>10 A. Correct.</p> <p>11 Q. If you look in the abstract, about middle</p> <p>12 of the abstract paragraph, it says: (Reading)</p> <p>13 After adjustment for a</p> <p>14 established ovarian cancer risk</p> <p>15 factors.</p> <p>16 Do you see that?</p> <p>17 A. I do.</p> <p>18 Q. What that means is that this paper</p> <p>19 adjusted for established ovarian cancer risk factors,</p> <p>20 correct?</p> <p>21 MR. FARIES: Objection to form.</p> <p>22 THE WITNESS: That's what they state.</p> <p>23 BY MR. HEGARTY:</p> <p>24 Q. In fact, that's what you state?</p> <p>25 A. Yes.</p>	<p style="text-align: right;">Page 156</p> <p>1 BY MR. HEGARTY:</p> <p>2 Q. Well, my question is a little bit</p> <p>3 different.</p> <p>4 A. Yes, sir.</p> <p>5 Q. Isn't it correct, though, that if you had</p> <p>6 believed at the time these papers were published that</p> <p>7 body powder or talcum powder exposure was an</p> <p>8 established risk factor for ovarian cancer that you</p> <p>9 would have recommended to your fellow authors that</p> <p>10 they adjust for it in the papers?</p> <p>11 MR. FARIES: Objection to form.</p> <p>12 THE WITNESS: I think it would be fair to</p> <p>13 say that it should be considered, yes.</p> <p>14 BY MR. HEGARTY:</p> <p>15 Q. Well, is it fair to say, though, in answer</p> <p>16 to my question, that if you believed it would have</p> <p>17 been -- it was an established risk factor at the time</p> <p>18 these papers were published that you would have made</p> <p>19 such a recommendation to your coauthors?</p> <p>20 MR. FARIES: Objection to form.</p> <p>21 THE WITNESS: I'm -- I'm not really -- I'm</p> <p>22 not really sure. It's -- as I said many times,</p> <p>23 when we are working in these large groups,</p> <p>24 you -- you may provide input. It -- I might</p> <p>25 have been operating on the assumption that they</p>
<p style="text-align: right;">Page 155</p> <p>1 Q. Nowhere in this paper did you as an author</p> <p>2 or the other authors adjust for body powder or talcum</p> <p>3 powder exposure, correct?</p> <p>4 A. That is correct.</p> <p>5 Q. So you would have to agree that as of the</p> <p>6 date this paper was published you did not believe that</p> <p>7 body powder exposure or talcum powder exposure was an</p> <p>8 established ovarian cancer risk factor?</p> <p>9 MR. FARIES: Objection to form.</p> <p>10 THE WITNESS: As I have stated before, I'm</p> <p>11 not sure. It's very hard to pinpoint at a</p> <p>12 particular date what my opinion -- what my</p> <p>13 opinion was.</p> <p>14 BY MR. HEGARTY:</p> <p>15 Q. Well, wouldn't it be a fair statement that</p> <p>16 as of the date of all these four papers we just looked</p> <p>17 at, if you had believed that ovarian -- that body</p> <p>18 powder or talcum powder use was an established ovarian</p> <p>19 cancer risk factor, you would have recommended that</p> <p>20 the -- you and the other authors adjust for it in the</p> <p>21 study findings, correct?</p> <p>22 MR. FARIES: Objection to form.</p> <p>23 THE WITNESS: I -- I did not make that</p> <p>24 recommendation.</p> <p>25</p>	<p style="text-align: right;">Page 157</p> <p>1 had looked at it and perhaps it was not a risk</p> <p>2 factor, but I just don't know exactly what my</p> <p>3 frame of mind was at that point.</p> <p>4 BY MR. HEGARTY:</p> <p>5 Q. Well, you know better than anyone yourself</p> <p>6 and how you would approach being an author on a paper,</p> <p>7 correct?</p> <p>8 A. Correct.</p> <p>9 Q. Is it your testimony that if you had</p> <p>10 believed that ovarian -- that body powder or talcum</p> <p>11 powder use was an established risk factor that you</p> <p>12 would not have passed that information along to your</p> <p>13 coauthors?</p> <p>14 MR. FARIES: Objection to form and</p> <p>15 mischaracterizes the witness' prior testimony.</p> <p>16 BY MR. HEGARTY:</p> <p>17 Q. You can answer.</p> <p>18 A. I'm -- I -- I think that I was probably</p> <p>19 relying on my coauthors and I did not make that</p> <p>20 recommendation. That's all I can say.</p> <p>21 Q. Well, are you testifying here today that</p> <p>22 at the time these papers were published you did</p> <p>23 believe that body powder or talcum powder use was an</p> <p>24 established ovarian cancer risk factor?</p> <p>25 MR. FARIES: Objection to form.</p>

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<p style="text-align: right;">Page 158</p> <p>1 THE WITNESS: My testimony is that I have 2 believed for quite some time that talcum powder 3 use is a risk factor for ovarian cancer. 4 BY MR. HEGARTY: 5 Q. Understood, but I'm talking about at the 6 date these papers were published. Is it your 7 testimony that at the date these papers were published 8 that you believed that body powder or talcum powder 9 use was an established risk factor for ovarian cancer? 10 MR. FARIES: Objection to form. 11 THE WITNESS: I would say yes, I did 12 believe it at that point. 13 BY MR. HEGARTY: 14 Q. And that goes back to even the paper that 15 was published in 2015? 16 A. As I have stated before, I have held this 17 position for a while. I don't know exactly at what -- 18 what point I would have said I held it or did not hold 19 it. 20 Q. And it's your testimony that you -- 21 despite you holding that belief, you didn't pass that 22 belief on to your coauthors; is that correct? 23 MR. FARIES: Objection. Sorry. Objection 24 to form, asked and answered multiple times. 25</p>	<p style="text-align: right;">Page 160</p> <p>1 A. That is correct. 2 Q. Is it correct that this first -- this -- 3 this paper, Exhibit 12, is the first time you ever 4 reported in the study in which you were on a relative 5 risk or odds ratio for body powder or talcum powder 6 use in ovarian cancer? 7 A. To the best of my knowledge yes. 8 Q. This is a paper in which you are the lead 9 author, correct? 10 A. That is correct. 11 Q. That means you are responsible for 12 everything in this paper, right? 13 MR. FARIES: Objection to form. 14 THE WITNESS: I wrote this paper, yes. 15 BY MR. HEGARTY: 16 Q. And you stand behind the results of this 17 paper, correct? 18 A. I do. 19 Q. And in this paper you found no association 20 between talcum powder use and ovarian cancer in either 21 of African-American or white women, correct? 22 MR. FARIES: Objection to form. 23 THE WITNESS: In this paper there was not 24 a statistically significant association, that is 25 true.</p>
<p style="text-align: right;">Page 159</p> <p>1 BY MR. HEGARTY: 2 Q. You can answer. 3 A. Okay. 4 MR. FARIES: And let this be the last time 5 that you ask this question, please. 6 THE WITNESS: Okay. No, I did not pass 7 that information along to the coauthors. 8 BY MR. HEGARTY: 9 Q. Okay. Now, you -- in none of the papers 10 that we just looked at was there a reporting of a 11 relative risk or an odds ratio for talcum or body 12 powder use in ovarian cancer, correct? 13 A. That is correct. 14 Q. But you have been an author on several 15 papers that have reported an odds ratio or relative 16 risk for use of talcum powder or body powder -- 17 powders and ovarian cancer, correct? 18 A. That is correct. 19 (EXHIBIT NUMBER 12 WAS MARKED FOR IDENTIFICATION) 20 BY MR. HEGARTY: 21 Q. The first paper, from what I can tell, of 22 your publications that reported an odds ratio or 23 relative risk is what I've marked as Exhibit Number 12 24 which is titled, Ovarian Cancer Risk Factors in 25 African-American and White Women. Correct?</p>	<p style="text-align: right;">Page 161</p> <p>1 BY MR. HEGARTY: 2 Q. Well, with regard to white women, the odds 3 ratio you reported is 1.04, correct? 4 A. That is correct. 5 Q. That is essentially null value, right? 6 MR. FARIES: Sorry, hang on, slow down. 7 Objection to form. 8 MR. HEGARTY: Okay. 9 MR. FARIES: Now you can proceed. 10 THE WITNESS: Okay. Among the white 11 women, that is correct, the odds ratio was 1.04, 12 which is very close to the null value. 13 BY MR. HEGARTY: 14 Q. You also compared the results in whites 15 and African-American women and found no difference 16 between the two, correct? You did not find 17 heterogeneity, right? 18 A. If you let me just look for a moment to -- 19 Q. Sure. 20 A. -- just recall. 21 MR. FARIES: If you don't feel 22 comfortable, always review your paper. 23 (WITNESS REVIEWS DOCUMENT) 24 THE WITNESS: Uh-huh. That is correct, we 25 did not find a statistically significant</p>

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<p>1 Q. Do you rely on what I've marked as Exhibit 2 Number 13 as part of your reliance materials for your 3 opinions in this case? 4 A. I consider -- you know, as I said, I 5 considered the full body of literature and so, yes. 6 Q. Within the dataset of the North Carolina 7 Ovarian Cancer Study, are there -- is that a racially 8 diverse population; in other words, does it include 9 white women, African-American women, Hispanic women? 10 A. It was -- is a racially diverse. There 11 were no exclusions by race/ethnicity, but it was 12 reflecting the population and the incidence of ovarian 13 cancer, so the vast majority of the -- or a large 14 majority of the women in the study were white women. 15 Q. Do you know what percentage? 16 A. Off the top of my head, I don't know. I 17 would say probably definitely greater than 80 percent. 18 (EXHIBIT NUMBER 14 WAS MARKED FOR IDENTIFICATION) 19 BY MR. HEGARTY: 20 Q. Next study I'm going to hand you I've 21 marked as Exhibit Number 14. This is a study 22 entitled, Racial, slash, Ethnic Differences in the 23 Epidemiology of Ovarian Cancer: A Pooled Analysis of 24 12 Case-Control Studies. 25 A. Yes.</p>	<p>1 MS. PARFITT: Page 8? 2 MR. HEGARTY: Page 8. 3 BY MR. HEGARTY: 4 Q. -- and you look at the section, Body 5 Powder Use. Do you see that section? 6 A. Yes, I do. 7 Q. First of all, body powder use includes use 8 of cornstarch products, correct? 9 A. It may. 10 Q. It can include deodorizing body powders, 11 correct? 12 A. It -- it may, yes. 13 Q. Body powder use is not exclusive to 14 powders containing talcum powder for purposes of the 15 African-American study, correct? 16 MR. FARIES: Objection to form. 17 THE WITNESS: That is correct. 18 BY MR. HEGARTY: 19 Q. In fact, some of the women in the 20 African-American study used only cornstarch products, 21 correct? 22 MR. FARIES: Objection to form. 23 THE WITNESS: We do not know that. We 24 asked about body powder use, so we did not ask 25 them to distinguish.</p>
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<p>1 Q. Is that correct? 2 A. That is correct. 3 Q. You are an author on this paper; is that 4 correct? 5 A. That is correct. 6 Q. This paper shows in the upper right-hand 7 corner that it was published on December 2nd, 2017; E 8 published ahead of print; is that correct? 9 A. I'm sorry, where are you? 10 Q. Upper right-hand corner. 11 A. I am not seeing that on the document. 12 Q. I'm sorry, you may have different copy 13 than I have. This is the copy I have. I guess they 14 gave me a different copy. The copy I have shows it 15 was published in December 2nd -- on December 2nd; E 16 published ahead of print. Do you know if that's 17 accurate, if whether it was published in December of 18 2017? 19 A. I don't recall the exact date. I know 20 that it is a paper that came out fairly recently. 21 Q. Do you agree it came out in the last three 22 months, four months? 23 A. That sounds about right. 24 Q. If you turn over to page 8 of this 25 study --</p>	<p>1 BY MR. HEGARTY: 2 Q. But you did not limit it to body powder 3 use containing talcum, correct? 4 A. That is correct. 5 Q. If you look at the column for body powder 6 use, you found that -- you found no increase in the 7 risk of ovarian cancer from any genital use in 8 Hispanic women, correct? 9 MR. FARIES: Objection to form. When 10 you're referring to "you," do you mean the 11 witness literally or the authors of the study? 12 MR. HEGARTY: Fair point. 13 BY MR. HEGARTY: 14 Q. Yeah, the -- when I talk about "you," I'm 15 referring to the paper or the authors. Is that -- do 16 you understand that? 17 A. Right. Once again, I want to say the -- 18 found an odds ratio of 1.41. The confidence interval 19 included 1 so, therefore, it was not a statistically 20 significant increased risk. 21 Q. You also not find a statistically 22 significant increased risk in Asian/Pacific Islander 23 women, correct? 24 A. That is correct. 25 Q. Is it your opinion that the increased risk</p>

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<p style="text-align: right;">Page 178</p> <p>1 of body powder -- of ovarian cancer with body powder 2 use does not vary across racial and ethnicity 3 features? 4 MR. FARIES: Objection to form. 5 BY MR. HEGARTY: 6 Q. Let me ask it a different way. 7 A. Yeah, there were a couple of double. 8 Q. Do you believe -- you've offered the 9 opinions in this case about body powder use in ovarian 10 cancer. Do you -- is it your opinion that those apply 11 regardless of racial or ethnicity characteristics? 12 MR. FARIES: Objection to form. 13 THE WITNESS: Okay. I based my opinion on 14 the overall body of literature, and as all of us 15 are well aware, the body of literature is 16 predominantly white populations. And as we can 17 see here, the number of Hispanic women is a 18 small fraction of the number of non-Hispanic 19 whites and the same is true but to a lesser 20 extent for black women and Asian and Pacific 21 Islanders. And again, my opinion was based on 22 the overall body of literature. This one 23 publication suggests that the strength of the 24 association may vary somewhat across race/ethnic 25 groups, but again, that is for race/ethnic</p>	<p style="text-align: right;">Page 180</p> <p>1 BY MR. HEGARTY: 2 Q. You also found in this study: (Reading) 3 As reported below, no 4 statistically significant association 5 between aspirin, acetaminophen, or 6 NSAID use and ovarian cancer. 7 Correct? 8 A. Again, all of those associations were not 9 statistically significant. 10 Q. If turn over to page 9, top of the second 11 column you say: (Reading) 12 Study heterogeneity was 13 present for several characteristics 14 which include body powder exposure. 15 Correct? 16 A. Let me just -- yes, that is what it 17 states. 18 Q. That means that you found differences in 19 the odds ratios across the various racial groups, 20 correct? 21 A. Yes, that is -- would be -- yes. 22 Q. And if you look down at the bottom of that 23 column, the last paragraph says: (Reading) 24 For a model of established EOC 25 epithelial ovarian cancer risk</p>
<p style="text-align: right;">Page 179</p> <p>1 groups other than non-Hispanic whites. We are 2 somewhat more limited in the numbers. 3 BY MR. HEGARTY: 4 Q. You found in -- you or the paper or the 5 studies found in this analysis that there was no 6 statistically significant association between 7 nongenital use of body powder and ovarian cancer in 8 any racial group, correct? 9 A. As reported here, so in non-Hispanic 10 white, the odds ratio 1, that is an accurate 11 statement. For the Hispanic woman, it is -- 1.55 is 12 the odds ratio. The lower bound of the confidence 13 interval is right at 1 so that would typically 14 translate to a p-value of right at .05, and so at 15 least in that group there is some indication of 16 increased risk. 17 Q. But in that group, the real odds ratio 18 could be 1.00, correct? 19 MR. FARIES: Objection to form. 20 THE WITNESS: We've talked about the 21 interpretation of the odds ratio repeatedly. 22 This is the range of values with which it is 23 statistically compatible. The lower bound of 24 the confidence interval is a possible but less 25 likely value.</p>	<p style="text-align: right;">Page 181</p> <p>1 factors. 2 Then you list several of those risk 3 factors in the -- then you list the risk factors in 4 the parenthetical. Then you state: (Reading) 5 The average ORs among the 6 controls was estimated by race 7 ethnicity. 8 Correct? 9 A. That's what is stated, yes. 10 Q. In this paper you did not include as an 11 established epithelial ovarian cancer risk factor body 12 powder use, correct? 13 MR. FARIES: Objection to form. And just, 14 once again, the "you" is the authors, the 15 collective publication. 16 MR. HEGARTY: That includes her. 17 MR. FARIES: Yes, she's one of authors. 18 THE WITNESS: Okay. Yes, the -- talc was 19 not included in this model. 20 BY MR. HEGARTY: 21 Q. Did you recommend to your fellow authors 22 that talcum powder -- or I'm sorry, that body powder 23 use should be included in the list of established 24 epithelial ovarian cancer risk factors? 25 A. I did not.</p>

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<p style="text-align: right;">Page 182</p> <p>1 Q. And that's what this line says</p> <p>2 when -- strike that.</p> <p>3 When you put the parenthetical -- when the</p> <p>4 authors put the parenthetical after established</p> <p>5 epithelial ovarian cancer risk factors, you intended</p> <p>6 to identify in that parenthetical those the authors</p> <p>7 concluded were established risk factors, correct?</p> <p>8 MR. FARIES: Objection to form.</p> <p>9 THE WITNESS: That is a list of them --</p> <p>10 the factors that they did include in the model,</p> <p>11 yes.</p> <p>12 BY MR. HEGARTY:</p> <p>13 Q. Well, that they included --</p> <p>14 A. And they --</p> <p>15 Q. I'm sorry.</p> <p>16 A. That they -- the investigators that did</p> <p>17 this statistical analysis, that is what they included</p> <p>18 in that model as -- and they considered the</p> <p>19 established risk factors.</p> <p>20 Q. And the investigators included you?</p> <p>21 A. Yes.</p> <p>22 Q. And then if you turn over to the next</p> <p>23 page, page 10, the very bottom to the right-hand</p> <p>24 column, the authors write: (Reading)</p> <p>25 A concern with self-reported</p>	<p style="text-align: right;">Page 184</p> <p>1 MR. FARIES: Objection to form.</p> <p>2 THE WITNESS: These two sentences are</p> <p>3 definitely raising that as a concern about</p> <p>4 factors like this. They outline some of the</p> <p>5 concerns about how difficult it is to accurately</p> <p>6 report this -- these exposures.</p> <p>7 BY MR. HEGARTY:</p> <p>8 Q. And you stand behind the results of this</p> <p>9 study too, correct?</p> <p>10 A. Yes, I do.</p> <p>11 Q. Now, at the time this study was published,</p> <p>12 you had been retained as an expert for Plaintiffs in</p> <p>13 this litigation, correct?</p> <p>14 A. Let's see, I'm trying to -- this -- yes,</p> <p>15 I -- I think that I must have been.</p> <p>16 Q. Did you have to fill out a conflict of</p> <p>17 interest disclosure as part of this paper?</p> <p>18 A. I don't recall specifically for this</p> <p>19 paper.</p> <p>20 Q. Well, as a matter of course, you have to</p> <p>21 fill out one, correct?</p> <p>22 A. Most journals do.</p> <p>23 Q. Are you ever published in -- in any</p> <p>24 journal that has not required the authors in the last</p> <p>25 few years to provide a conflict of interest</p>
<p style="text-align: right;">Page 183</p> <p>1 data is recall bias especially for</p> <p>2 characteristics that are difficult to</p> <p>3 report with accuracy. Required</p> <p>4 subjective summarization or can be</p> <p>5 influenced by the investigator, media,</p> <p>6 or similar factors. Such problematic</p> <p>7 characteristics may include body</p> <p>8 powder exposure, analgesic medication</p> <p>9 use, breastfeeding, and possibly</p> <p>10 family history.</p> <p>11 Did I read that correctly?</p> <p>12 A. You did read that correctly.</p> <p>13 Q. What the authors are stating there is that</p> <p>14 the results reported could be inaccurate because of</p> <p>15 subjective summarization or the influence by the</p> <p>16 investigator, media, or similar factors, correct, as</p> <p>17 it relates to body powder use, correct?</p> <p>18 MR. FARIES: Objection to form.</p> <p>19 THE WITNESS: Please state --</p> <p>20 BY MR. HEGARTY:</p> <p>21 Q. Sure. What that --</p> <p>22 A. -- the question.</p> <p>23 Q. -- those two sentences state is that</p> <p>24 recall bias could influence the results as it relates</p> <p>25 to body powder use, correct?</p>	<p style="text-align: right;">Page 185</p> <p>1 disclosure?</p> <p>2 A. I can't think of one right offhand. I</p> <p>3 just . . .</p> <p>4 Q. This was published in the International</p> <p>5 Journal of Epidemiology, correct?</p> <p>6 A. Yes.</p> <p>7 Q. That journal requires the authors to</p> <p>8 identify any potential conflicts of interest, correct?</p> <p>9 MR. FARIES: Objection to form.</p> <p>10 THE WITNESS: Once again, I publish in --</p> <p>11 we publish in many journals and I -- I just</p> <p>12 don't specifically recall the conflict of</p> <p>13 interest form for this one.</p> <p>14 BY MR. HEGARTY:</p> <p>15 Q. Did you disclose to the Journal at the</p> <p>16 time this was published that you were a paid</p> <p>17 Plaintiffs' expert in litigation involving talcum</p> <p>18 powder or body powder use in ovarian cancer?</p> <p>19 A. I did not.</p> <p>20 Q. Don't you believe that an author reading</p> <p>21 this paper with your name on it should know whether</p> <p>22 you're a paid Plaintiffs' expert who's going to</p> <p>23 testify in litigation that body powder use or talcum</p> <p>24 powder use causes ovarian cancer?</p> <p>25 MR. FARIES: Objection to form.</p>

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<p>1 agree that it would be impossible to do a case control 2 study that would report accurate results? 3 MR. FARIES: Objection to form. 4 THE WITNESS: I could not state what 5 level, what degree, what that would be to say 6 that we could not do a case-control study. 7 BY MR. HEGARTY: 8 Q. You do agree it would be a significant 9 concern in such an environment? 10 MR. FARIES: Objection to form. 11 THE WITNESS: Anytime we do a case-control 12 study we consider recall bias as a concern. 13 BY MR. HEGARTY: 14 Q. But you would consider a concern publicity 15 or awareness of your study group between an exposure 16 and a disease you're looking at, correct? 17 A. Yes, we would, which would play into 18 recall bias, why might women recall differently. 19 Q. As you said, recall bias could explain the 20 difference between the number of cases who reported 21 body powder use before 2014 and the number that 22 reported afterwards, after 2014? 23 MR. FARIES: Objection to form. 24 THE WITNESS: I said that that was one 25 possible explanation.</p>	<p>1 correct? Under duration of use? 2 MR. FARIES: I'm sorry, objection to the 3 form of the question. 4 THE WITNESS: And the test for trend for 5 duration of use was not statistically 6 significant for the nongenital use. Yes, that 7 is correct. 8 BY MR. HEGARTY: 9 Q. With regard to the -- any genital use by 10 number of applications, you use the levels of less 11 than 3600 and greater than 3600. How did those -- how 12 were those levels chosen? 13 A. That was the median number of 14 applications. That was the cut point used. 15 Q. Is it correct that you did not -- or 16 strike that. 17 Did you find any dose response for only 18 nongenital use in ovarian cancer? 19 A. We did not find a significant trend with 20 either duration of use nor with number of applications 21 for nongenital use. 22 Q. You also found no increase in risk of 23 ovarian cancer -- I'm sorry, strike that. 24 For occupational exposures you found no 25 increase in risk of ovarian cancer, correct?</p>
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<p>1 BY MR. HEGARTY: 2 Q. Now, you looked at dose response in this 3 study, correct? 4 A. Yes, we considered that. 5 Q. You found -- you reported on a dose 6 response for only any powder use, correct? 7 MR. FARIES: What table are we looking at? 8 MR. HEGARTY: I'm sorry, for -- let me 9 back -- let me break that up. I'm still 10 Table 2. 11 MR. FARIES: All right. 12 THE WITNESS: Okay. 13 BY MR. HEGARTY: 14 Q. For duration you found no dose response in 15 any group, correct? 16 A. Okay. We are looking at Table 2 -- 17 Q. Duration of use. 18 A. -- in duration of use. So the women who 19 reported it for less than 20 years, 1.33, for greater 20 than 20 years the odds ratio was 1.52 with a 21 significant p-value for trend. So that does indicate 22 a significant trend with duration of use for any 23 genital use. 24 Q. You did not find one for -- you're not 25 finding dose response for only nongenital use,</p>	<p>1 A. I'm trying to remember where we reported 2 that in the paper. Right. In the paragraph below 3 that we report an odds ratio of 1.31. And the 4 confidence interval does include one, so it was not 5 statistically significant. And as I recall, that was 6 a pretty small number of women who reported 7 occupational use. 8 Q. Did you also report in this study that you 9 found that most studies show no association to 10 nongenital use? 11 A. I think that we did make that statement in 12 here. 13 Q. Did you make a statement anywhere in this 14 paper that body powder use causes ovarian cancer? 15 A. No, I did not make -- no, that statement 16 was not made in this paper. 17 Q. Can you cite for me any epidemiologic 18 study where the authors determined a statistically 19 significant increase in risk of talcum powder use in 20 ovarian cancer that exceeded 2.0? 21 MR. FARIES: Objection to the form. 22 THE WITNESS: I -- I'm sorry, tell me 23 again. 24 BY MR. HEGARTY: 25 Q. Sure. Can you cite for me any</p>

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<p style="text-align: right;">Page 206</p> <p>1 epidemiologic study where the authors determined a 2 statistically significant increase in risk greater 3 than two between perineal talc use and ovarian cancer? 4 MR. FARIES: Objection to form. 5 THE WITNESS: Okay. We have already 6 talked about one instance of that. In the 7 Cramer paper it was greater than two for the 8 sample of African-American women. But, again, 9 we have talked about the imprecision of that 10 estimate based on the small sample size. 11 And I -- I know that there have -- other 12 studies have reported a relative risk greater 13 than two. I do not recall on the individual 14 studies if it was statistically significant 15 right off the top of my head. 16 BY MR. HEGARTY: 17 Q. Are you aware of any paper where the 18 authors reported an overall increase in risk that's 19 statistically significant in excess of two between 20 perineal talc use and ovarian cancer? 21 A. So my answer is the same as for the last 22 question that there have been some papers that have 23 reported an odds ratio greater than two but off the 24 top of my head, I don't recall whether or not they 25 were statistically significant.</p>	<p style="text-align: right;">Page 208</p> <p>1 A. No, I have not. 2 Q. Have you ever done the kind of analysis 3 you've done here with regard to talcum powder product 4 use in ovarian cancer where you've been paid by 5 plaintiffs' lawyers? 6 A. No, I have never done anything like that. 7 Q. Have you ever done any kind of analysis 8 like you've done here where you've reviewed deposition 9 testimony and other materials generated in litigation? 10 A. No, I have not. 11 Q. Have you ever done any type of analysis 12 like you've done here for any cosmetic other than 13 talcum powder products? 14 A. No, I have not. 15 Q. How about with regard to any other mineral 16 besides talcum powder? 17 A. No, I have not. 18 Q. In terms of the process you've talked 19 about in reaching your opinions in this case, have you 20 ever published in any peer-reviewed publication the 21 steps that you took here to come to your opinions? 22 MR. FARIES: Objection to form. 23 THE WITNESS: Have I ever described the 24 steps I took to evaluate talc and ovarian 25 cancer?</p>
<p style="text-align: right;">Page 207</p> <p>1 Q. Dr. Moorman, have you ever -- strike that. 2 Dr. Moorman, before being contacted by 3 Plaintiffs' lawyers in this case, had you ever done 4 any type of analysis, review and come to opinions as 5 you have done here in any situation involving any 6 exposure or any disease? 7 MR. FARIES: Objection to form. 8 THE WITNESS: I think that every time we 9 write a paper, we are considering all of the 10 data and coming to an opinion, so I would argue 11 that I have done that many times. 12 BY MR. HEGARTY: 13 Q. Have you ever done the same analysis 14 here -- strike that. 15 Have you ever done analysis like you did 16 here and came to the conclusion that any other 17 exposure caused or causes any other disease? 18 A. I have never used the phrasing "cause." I 19 have certainly used the phrasing "increased risk." 20 Q. Have you ever done an analysis looking at 21 either an increased risk -- looking at either 22 increased risk or cause where you've received 23 materials from a plaintiff's lawyer? 24 A. Other than this case? 25 Q. Yes.</p>	<p style="text-align: right;">Page 209</p> <p>1 BY MR. HEGARTY: 2 Q. Yes. In any published, peer-reviewed 3 piece of literature? 4 A. I have not. 5 MR. FARIES: Objection to form. 6 BY MR. HEGARTY: 7 Q. I'm sorry, what was the answer? 8 A. I said I have not. 9 Q. Other than -- strike that. 10 In terms of -- Dr. Moorman, do you agree 11 that all women are at risk for developing ovarian 12 cancer? 13 MR. FARIES: Objection to form. 14 THE WITNESS: I would say that all women 15 who have ovaries are at risk for developing 16 ovarian cancer. 17 BY MR. HEGARTY: 18 Q. With regard to women who have ovaries, 19 what is their lifetime risk of developing ovarian 20 cancer? 21 A. That is typically reported as about a 1.3 22 to 1.4 lifetime probability. 23 Q. Ovarian cancer existed before any talcum 24 powder product was ever used by women, correct? 25 A. Yes.</p>

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<p style="text-align: right;">Page 210</p> <p>1 Q. Ovarian cancer would still exist if women 2 stopped using talcum powder products, correct? 3 A. Yes. 4 Q. Ovarian cancer occurs in women who have 5 never been exposed to any talcum powder product, 6 correct? 7 A. Yes. 8 Q. And any woman who used a talcum powder 9 product was still at risk for ovarian cancer without 10 regard to the use of the talcum powder products, 11 correct? 12 A. Yes. 13 Q. And there are women who develop ovarian 14 cancer who have no known risk factors, correct? 15 MR. FARIES: Objection to form. 16 THE WITNESS: Yes. 17 BY MR. HEGARTY: 18 Q. And as to all of the women in this case, 19 if you had been able to talk to them at a young age, 20 you could not have assured them that they would not 21 get ovarian cancer if they never used a talcum powder 22 product, correct? 23 MR. FARIES: Objection to form. 24 THE WITNESS: You could not assure them of 25 that because ovarian cancer is not caused by one</p>	<p style="text-align: right;">Page 212</p> <p>1 defined mutation in, like, BRCA1 or BRCA2. And so 2 it's contrasting those -- the genetic -- the strong 3 genetic association versus the ones without that. 4 Q. If a woman's lifetime risk generally is 5 1.3 to 1.4, what is the lifetime risk of a woman who 6 uses talcum powder products? 7 MR. FARIES: Objection to form. 8 THE WITNESS: We are talking about the 9 relative risk. Most of the meta-analyses 10 conclude that there is a relative risk of about 11 1.25, so multiplying 1.4 by 1.25 gives you a 12 lifetime risk of approximately 1.7 percent, 13 something like that. When -- and, of course, 14 when you apply it to millions of women, that 15 small difference becomes more important. 16 BY MR. HEGARTY: 17 Q. What is the latency period by which use of 18 talcum powder products can cause ovarian cancer? 19 MR. FARIES: Objection to form. 20 THE WITNESS: It is usually very difficult 21 to establish with precision what the latency 22 period is for any given exposure. Many times it 23 is thought that the latency period can be many 24 decades. 25</p>
<p style="text-align: right;">Page 211</p> <p>1 single risk factor. 2 BY MR. HEGARTY: 3 Q. So no single risk factor can be the cause 4 of an ovarian cancer; is that what -- that what you're 5 saying? 6 A. No, I am -- I am not saying that. I am 7 saying that there is no single risk factor that 8 accounts for all ovarian cancers. 9 Q. Ovarian cancer occurs even in the absence 10 of risk factors, correct? 11 MR. FARIES: Objection to form. 12 THE WITNESS: Ovarian cancer, something 13 has to cause it, okay? And so it is accurate to 14 say that sometimes it occurs in the absence of 15 known risk factors. 16 BY MR. HEGARTY: 17 Q. That cause can be what's considered to be 18 sporadic, correct? 19 MR. FARIES: Objection to form. 20 BY MR. HEGARTY: 21 Q. Do you know what the phrase "sporadic 22 cause" means? 23 A. In the epidemiology world, most often when 24 the term "sporadic" is used, it is used to contrast it 25 with, like, a genetic cause or, like, for example, a</p>	<p style="text-align: right;">Page 213</p> <p>1 BY MR. HEGARTY: 2 Q. Well, do you have an opinion as to how 3 long a woman must use a talcum powder product for it 4 to be a -- for it to cause ovarian cancer? 5 MR. FARIES: Objection to form. 6 THE WITNESS: For an individual woman, I 7 would not have an opinion, and I also do not 8 think that we have the data that we could say -- 9 we could say that how many applications, how 10 long is too much. I don't think we can identify 11 any safe period of use. 12 BY MR. HEGARTY: 13 Q. All right. Do you have the data to have 14 an opinion as to how long talcum powder products must 15 be used or how frequent they must be used in order to 16 actually increase the risk of ovarian cancer in a 17 woman? 18 MR. FARIES: Objection to form. 19 THE WITNESS: I think my answer is just 20 like for the previous question, that we don't 21 have that data. 22 BY MR. HEGARTY: 23 Q. What is the volume of talcum powder 24 exposure necessary to either cause or increase the 25 risk of ovarian cancer?</p>

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<div style="text-align: right; margin-bottom: 10px;">Page 362</div> <div style="margin-bottom: 10px;"> <p>1 -----</p> <p>2 E R R A T A</p> <p>3 -----</p> <p>4 PAGE LINE CHANGE</p> <p>5 REASON: _____</p> <p>6 REASON: _____</p> <p>7 REASON: _____</p> <p>8 REASON: _____</p> <p>9 REASON: _____</p> <p>10 REASON: _____</p> <p>11 REASON: _____</p> <p>12 REASON: _____</p> <p>13 REASON: _____</p> <p>14 REASON: _____</p> <p>15 REASON: _____</p> <p>16 REASON: _____</p> <p>17 REASON: _____</p> <p>18 REASON: _____</p> <p>19 REASON: _____</p> <p>20 REASON: _____</p> <p>21 REASON: _____</p> <p>22 REASON: _____</p> <p>23 REASON: _____</p> <p>24 REASON: _____</p> <p>25 REASON: _____</p> </div>	<div style="margin-bottom: 10px;"> <p>1 STATE OF NORTH CAROLINA</p> <p>2 COUNTY OF DAVIDSON</p> <p>3 CERTIFICATE</p> <p>4 I, Amy A. Brauser, RPR, RMR, CRR, Registered</p> <p>5 Merit Reporter/Certified Realtime Reporter, the</p> <p>6 officer before whom the foregoing deposition was</p> <p>7 taken, do hereby certify that the witness was duly</p> <p>8 sworn by me prior to the taking of the foregoing</p> <p>9 deposition; that the testimony of said witness was</p> <p>10 taken by me to the best of my ability and thereafter</p> <p>11 reduced to typewriting under my direction; that I am</p> <p>12 neither counsel for, related to, nor employed by any</p> <p>13 of the parties to the action in which this deposition</p> <p>14 was taken, and further that I am not a relative or</p> <p>15 employee of any attorney or counsel employed by the</p> <p>16 parties thereto, nor financially or otherwise interest</p> <p>17 in the outcome of the action.</p> <p>18</p> <p>19 This is on the 13th day of March, 2018.</p> <p>20</p> <p>21 _____ Amy A. Brauser, RPR RMR CRR Notary Public # 20023030055</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> </div>
<div style="margin-bottom: 10px;"> <p>1 ACKNOWLEDGMENT OF DEPONENT</p> <p>2</p> <p>3 I, _____, do</p> <p>4 hereby certify that I have read the</p> <p>5 foregoing pages, and that the same</p> <p>6 is a correct transcription of the answers</p> <p>7 given by me to the questions therein</p> <p>8 propounded, except for the corrections or</p> <p>9 changes in form or substance, if any,</p> <p>10 noted in the attached Errata Sheet.</p> <p>11</p> <p>12 _____ PATRICIA MOORMAN, Ph.D., M.S.P.H. DATE</p> <p>13</p> <p>14</p> <p>15 Subscribed and sworn</p> <p>16 to before me this</p> <p>17 _____ day of _____, 20____.</p> <p>18 My commission expires: _____</p> <p>19 _____ Notary Public</p> <p>20</p> <p>21</p> <p>22</p> <p>23</p> <p>24</p> <p>25</p> </div>	